



3500 Internal Barriers

an engineered solution for hazardous area installations

by Neil Hughes
Application Engineer
Bently Nevada Corporation
neil.hughes@bently.com

When you require machinery management information from machines running in hazardous areas, 3500 Internal Barriers, as part of an integrated, engineered package, offer the highest level of protection against ignition of explosive atmospheres. Barriers are the interfaces that make approved transducer systems intrinsically safe for operation in Division 1 and 2 (Zone 0, 1, and 2) hazardous areas.

3500 Internal Barriers offer significant advantages over generic interfaces which are designed for a number of diverse applications. The advantages are increased reliability, complete system compatibility, simplified installation, and reduced cost.

Increased reliability

3500 Internal Barriers are part of specially designed I/O modules that are mounted on the back of the 3500 rack (Figure 1). The modules reduce the number of components that must be dealt with during installation, thereby reducing the complexity. Fewer components also mean fewer error-prone field wiring connections, even when hazardous and safe area monitors are combined in the same rack.

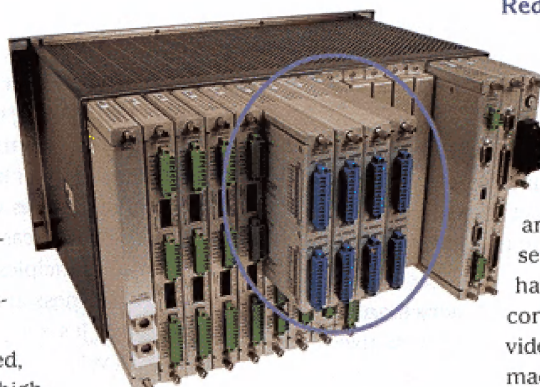


Figure 1. 3500 Internal Barriers

Complete system compatibility

The complete hazardous area monitoring package can be ordered at one time, assuring the designer that everything will be on hand when it comes time for installation. 3500 Internal Barriers are standard ordering options for each monitor type. When they are used with approved transducer systems, there is no need for a system designer to consult individual equipment data sheets or approvals certificates. A complete set of control drawings is provided with the system to assist with installation.

Simplified installation

During installation, no housing or additional mounting space has to be devoted to the external barriers. All the field wiring can be connected directly to the rack. The designer can be certain that the system is intrinsically safe and complies with North American or international approvals.

Reduced cost

Fewer components, less installation hardware, quicker installation time, and reduced cabinet space provide measurable cost savings. Savings before and after the installation are considerable, too. Less time to select a complete system for your hazardous area application, and confidence that the system will provide complete protection for your machinery once it has been installed, are characteristics that are more difficult to measure, but provide savings that are just as real.

3500 Internal Barriers are a flexible, totally integrated system solution for any transducer installation within an explosive environment because they have been engineered, designed, tested, and approved using a systems approach. A number of 3500 Monitors are now available with internal safety barriers:

- 3500/25 Keyphasor® Module
- 3500/40 Proximitor® Monitor
- 3500/42 Proximitor/Seismic Monitor
- 3500/50 Tachometer Module
- 3500/60 Temperature Monitor
- 3500/61 Temperature Monitor with recorders
- 3500/62 Process Variable Monitor

By adding internal barriers to the 3500 Monitoring System, we have made it easy for you to have a completely engineered solution that is suited for any hazardous area location. Contact your nearest Bently Nevada Sales and Service representative for more information. ☺